BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

As rescanning documents *will not* correct images, please do not report the images to the Image Problem Mailbox.

PATENT SPECIFICATION (11) 1 570 272

1 570 272

(21) Application No. 21800/78 (22) Filed 24 May 1978 (19)
(31) Convention Application No. 53304U (32) Filed 5 July 1977 in
(33) Italy (IT)
(44) Complete Specification published 25 June 1980
(51) INT. CL.³ B62D 25/08 29/04
(52) Index at acceptance
B7B 25Y 276 287 28Y CM

(54) MOTOR VEHICLE BODY FRONT APRON ELEMENT OF POLYMERIC MATERIAL

(71) We, COMIND S.p.A. and FIAT SOCIETA PER AZIONI, both Italian companies, of Corso Turati 11/C, Turin, Italy, and Corso Marconi 10, Turin, Italy, respectively, do hereby declare the invention, for which we pray that a patent be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The present invention relates to a motor vehicle front apron element, particularly for motor cars.

According to the present invention a front apron element for a motor vehicle body, particularly for a motor car, is constituted by a single hollow body of polymeric material shaped to include a radiator grille separated into upper and lower parts by a projecting horizontal rib serving as a bumper, two recesses shaped to receive a position and direction indicator lamp unit adjacent the said rib, one on each side of the said grille, and at least two further recesses shaped and adapted to receive respective headlamp units; the said body having rearwardly directed lateral extensions at each side thereof these extensions serving to define, in part, the wheel arches of a vehicle when the apron element is attached thereto.

Embodiments of the present invention combine three different components, that is the front apron, the bumper and the grille which in conventional construction were made separately. This allows a notable reduction of weight, and of cost and also makes for a simplification of assembly of the motor vehicle body. Moreover, a motor vehicle body front apron element formed as an embodiment of the invention can be made in its definitive form in a single moulding or forming operation using plastics material, whilst the three elements which it combines had previously to be fabricated separately using different fabricating techniques and subsequently assembled, which obviously led to very much greater costs than with a single plastics moulding operation.

By using a suitable plastics material, and thanks to the inherent strength of the apron element, the aesthetic appearance should last for a considerable time without deterioration under the action of atmospheric agents or the occasional knock or small accident to which the front end of a motor car is subject. Moreover the lamp units and the headlamps of the motor car should likewise be well protected against impact damage both by the resilient nature of the plastics material (which is preferably of an elastomer filled type) and the secure recessed mountings for these.

One embodiment of the present invention will now be more particularly described, by way of example, with reference to the accompanying drawings, in which:

Figure 1 is a perspective view from the front and one side of a motor vehicle body front apron element formed as an embodiment of the invention;

Figure 2 is a cross section, on a larger scale, taken on the line II—II of Figure 1;

Figure 3 is a longitudinal section, on a larger scale than Figure 1, taken on the line III—III of Figure 1;

Figure 4 is a cross section on a larger scale than Figure 1, taken on the line IV—IV of Figure 1;

Figure 5 is a perspective view from the rear and one side showing the inside of the embodiment illustrated in Figure 1.

Referring now to the drawings the front apron element shown is generally indicated 10, and according to the invention is constituted by a single hollow body of polymeric material intended to be installed on the forward part of a motor vehicle in place of the conventional front apron of the motor vehicle body.

The body 10 includes a radiator grille 11 separated into upper and lower portions 11*a*, 11*b* by a forwardly projecting horizontal rib 12 which serves as a bumper.

Above the rib 12, on each side of the upper grille portion 11*a*, the body 10 has a recess 13, 14 each of which is shaped to

retain a lamp unit containing the side lights and direction indicator lights. These recesses 13, 14 advantageously each have a rebated lip 13*a*, 14*a* provided with small holes for the engagement of the retaining screws of the corresponding lamp units, and a bottom aperture through which pass the connectors for electrical coupling to the lamp units when they are assembled in the recesses 13, 14.

In the upper part of the body 10 there are moreover formed two further recesses 15 and 16 intended to contain the headlamps of the vehicle, in recessed and therefore sheltered positions. These recesses are generally circular in frontal view and include an annular bottom lip 15*a*, 16*a* respectively, to which the associated headlamp unit can be fixed by means of screw fixing means, passing through holes 22 therein. The recesses also have a bottom aperture 15*b*, 16*b* respectively for the passage of associated electrical connectors for the headlamps.

As can be seen in Figure 2, the upper grille in the body 10 is defined by slightly converging walls 17, 18, inclination of which will be advantageously chosen in relation to the possible air ramming action which may be required of this air intake.

In Figure 2 there is also shown one of a plurality of suitably spaced bosses 19, in which are formed holes for the engagement of corresponding screw fixing means for attaching the apron element itself to the support structure of the motor vehicle body, that is to the chassis if it has such, or to the adjacent body sections if not.

Extending along the upper periphery of the upper portion of the body 10 there is a lip 20 formed into pierced ears 21 where the lip passes over the recesses 15 and 16 for the headlamps; the pierced ears 21 receive corresponding retaining screws for fixing the element to the motor vehicle support structure. In the above mentioned upper portion there are also formed a retaining bracket 23 and a seat 24 for receiving the spring lock closure mechanism of a bonnet, generally indicated C which covers the forward compartment of the motor vehicle.

At the sides of the body 10 there are two lateral extensions 25 which partially, define the wheel arches of a vehicle to which the apron element is to be attached. From the drawings it can be seen that such lateral extensions of the upper part of the body are joined to the lower part beneath the rib 12 along the lines 26 and 27 (see Figure 5) thereby forming a shell structure of high mechanical strength.

As indicated above, the body 10 constituting the apron element is integrally formed in a single piece by moulding using whichever of the known moulding techniques is suitable for the purpose and the plastics material chosen although, advantageously, the polymeric material used may be one having an elastomeric filler such materials are particularly resistant to knocks and impacts and also to low temperatures.

WHAT WE CLAIM IS:—

1. A front apron element for a motor vehicle body, particularly for a motor car, comprising a single hollow body of polymerica material shaped to include a radiator grille separated into upper and lower parts by a projecting horizontal rib serving as a bumper, two recesses each shaped to receive a position and direction indicator lamp unit adjacent the said rib, one on each side of the said grille, and at least two further recesses shaped and adapted to receive respective headlamp units; the said body having rearwardly directed lateral extensions at each side thereof these extensions serving to define, in part, the wheel arches of a vehicle when the apron element is attached thereto.

2. A front apron element as claimed in claim 1, in which the bottoms of the said recesses for receiving the position and direction indicator lamp units, and the said further recesses for receiving the headlamp units, are defined by an abutment lip in which engage screw fixing means for the retention of the said lamp and headlamp units respectively and an aperture for the passage of electrical connectors.

3. A front apron element as claimed in Claim 1 or Claim 2, in which the upper part of the grille is formed as an air duct delimited by inclined walls forming a ramming air intake.

4. A front apron element as claimed in any of claims 1, 2 or 3, in which there are provided a plurality of ears on the periphery of the body, these ears having holes for the passage of screw fixing means.

5. A front apron element as claimed in any of Claims 1 to 4, in which there are provided a plurality of spaced bosses on the body of the element, these bosses having holes for the engagement of screw fixing means.

6. A front apron element as claimed in any of claims 1 to 5, in which the lateral extensions of the body are joined to the lower part of the body itself, beneath the said transverse rib, whereby to form a half-shell structure.

7. A front apron element as claimed in any of claims 1 to 6, in which the body of the element is formed by moulding from

polymeric material with an elastomeric filler.

8. A front apron element for a motor vehicle body, substantially as hereinbefore described with reference to, and as shown in, the accompanying drawings.

For the Applicants:
F. J. CLEVELAND & COMPANY,
Chartered Patent Agents,
40—43 Chancery Lane,
London WC2A 1JQ.

Printed for Her Majesty's Stationery Office by Burgess & Son (Abingdon), Ltd.—1980.
Published at The Patent Office, 25 Southampton Buildings, London, WC2A 1AY,
from which copies may be obtained.

1570272 COMPLETE SPECIFICATION
4 SHEETS This drawing is a reproduction of the Original on a reduced scale
Sheet 1

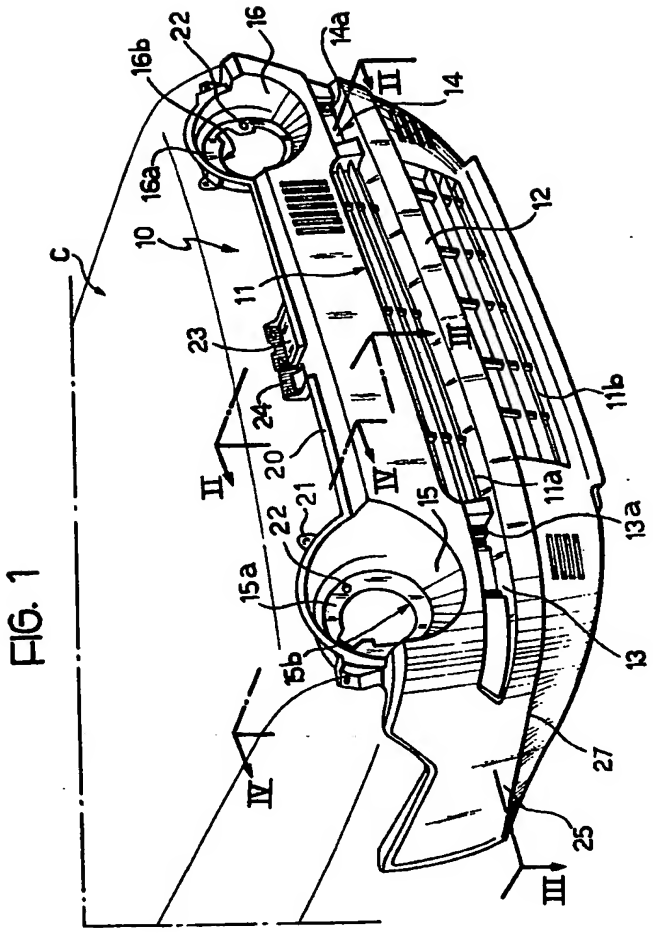
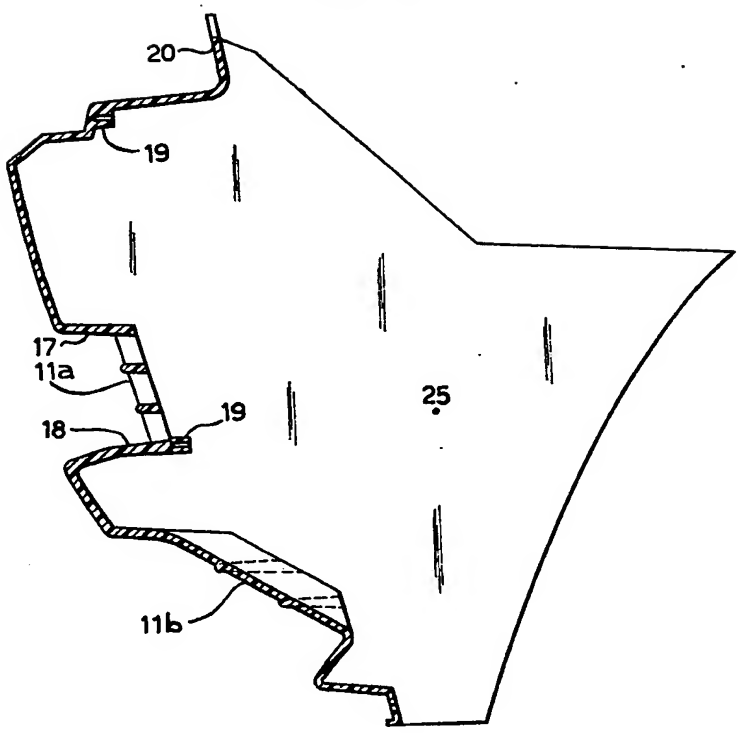


FIG. 1

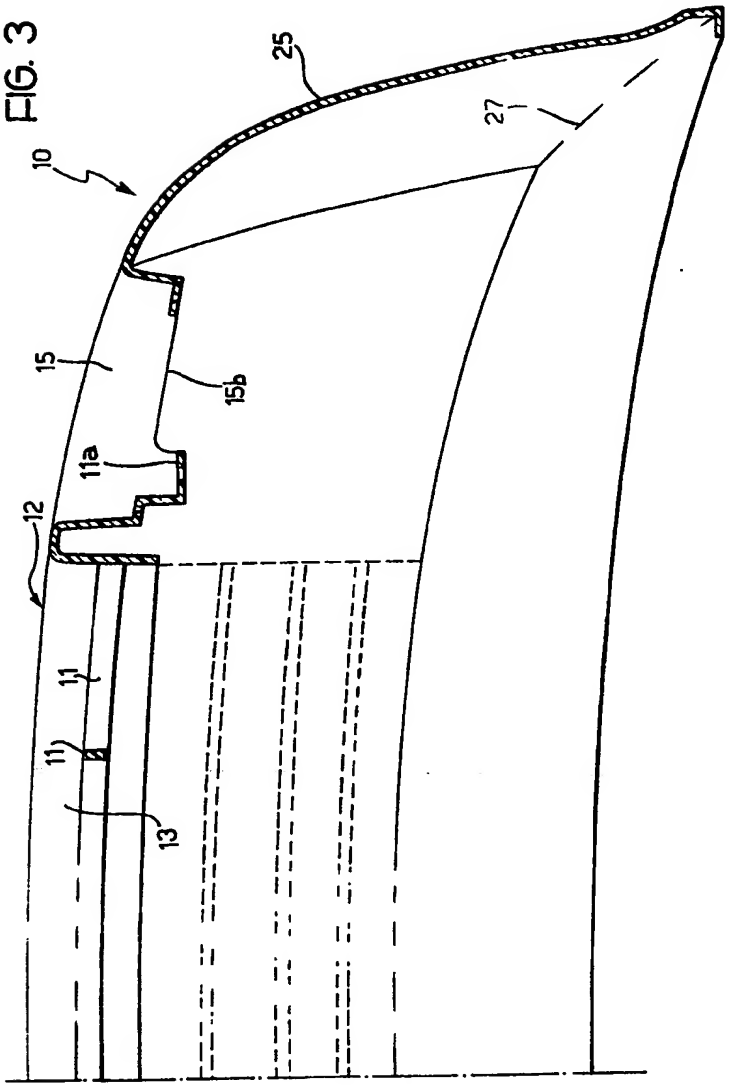
1570272 COMPLETE SPECIFICATION
4 SHEETS *This drawing is a reproduction of the Original on a reduced scale*
Sheet 2

FIG. 2



1570272 COMPLETE SPECIFICATION
4 SHEETS This drawing is a reproduction of the Original on a reduced scale
Sheet 3

FIG. 3



1570272 COMPLETE SPECIFICATION
4 SHEETS *This drawing is a reproduction of the Original on a reduced scale*
Sheet 4

FIG. 4

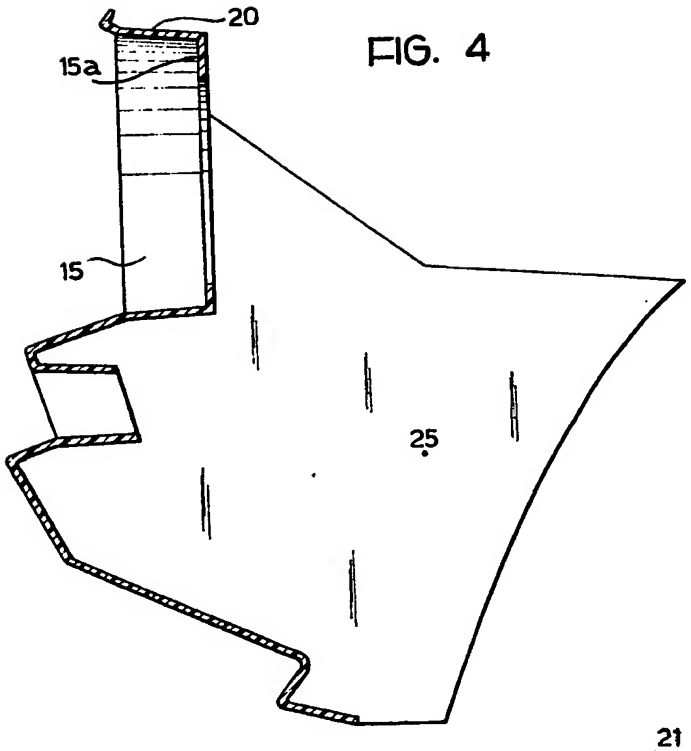


FIG. 5